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NATURAL ROTATION AROUND AN INTERNAL AXIS FOR A MAGNETIC BODY HAVING AN ADAPTED OBLONG FORM, DURING ITS LINEAR DISPLACEMENT IN ELECTROMAGNETIC ALTERNATING VECTOR SPACE-TIME EVTD^2

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Abstract: *This paper, in EVTD^2 theory, is an extension of publications [1-2] that initiate rotating movement in space, during a natural linear trajectory (as, for example, those of the Earth around an internal axe and on the orbit) for magnetic bodies having well adapted slightly asymmetric form. The two types of movements are simultaneously studied, taking into account the conjuncture changing of the trajectory, which represent both the Earth and the electron simultaneous movements. The form proportionality ratio width/height is very close to the Golden number and this is what adds to this last one the characteristic of a very good energy sensor, especially inside the hypothesis that EVTD^2 energetic entities are the constituent of space-time.*

Key words: *terrestrial rotation, EVTD^2 theory, vacuum energy, Golden number, entirely quantum space-time.*

1. INTRODUCTION

In publications [1] and [2] we proposed explanations concerning physical phenomena involved in the basic "motor" driving celestial bodies and electrons, inter alia, in their natural known, specific movements. This paper specifically follows the beginning of study developed in publication [2] relating to the natural linear movements of a body. The latter presents a form particularly adapted to capture quantum vacuum energy or spatial energy of EVTD^2 entities that structure a fully quantum space-time [3-9].

The gravity between the material bodies cannot explain their rotations on themselves: therefore, other concepts to try understanding the existence of such rotation speeds acquired in sidereal vacuum, as also in the subatomic dimensions for electrons are necessary. The most suitable object form for linear movements implementing which was fixed in [2], published in this issue of the magazine, will still be used, here, for the study of the rotation of the same object with an intrinsic magnetic field. From the form point of view, the body had already proved to be an excellent diffuse energy sensor: what has checked that his form ratio (width to height) was ultimately very adjacent to the Golden ratio, equal to 1.618034.

More, for implementing rotating magnetic objects, this Gold proportionality will be respected which will strengthen that excellent ability to well capture the vacuum energies, as it will be proposed more far. But more over, as analyzed in the paper [10] in this very number of this journal, the Golden number would represent the value of EMW wavelength in the sidereal vacuum (in its numerical signification), i.e. the precise value of $1.618034 \cdot 10^{-35}$ m.

Mechanically, the *energy is defined as the potential to perform work*. We have since shortly the theory of EVTD^2 entities [3-9]. This theory takes as base the energy of vacuum, resulting of three vibration actions of EMW (electromagnetic mother wave): i.e. three forms of energy (***E, H*** and ***p*** push-pull propagation) on some element of space-time (not defined so far), which we called "*substratum*". This "*substratum*" remembers us the old ether but, *here, much better defined* is nevertheless something of real and isotropic: it would be the ***quantum substrate of space-time*** wherefrom *substratum.* It allows understanding, among other things, the emergence of this global energy of the vacuum.

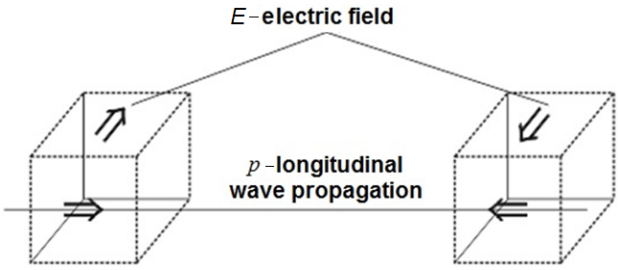


Fig. 1. The image of two EVTD^2 entities alternating in opposite phases with the vectors *p* and *E* (non-useful *H* vector here is not represented).

Natural movements have characteristics that are the reflection of EMW actions of the who, by its three alternative vectors components, ***E, H*** and *longitudinal propagation* ***p*** by "push - pull" (Fig. 1) acting on natural objects of suitable form, allowing their movements and maintains it over time. In publication [2], the possibility of linear motion of natural bodies (celestial bodies and subatomic particles) could be proposed by taking into account the vector *p* of *longitudinal propagation* of EMW. With regard to the possibility of spinning objects, such as for example the Earth and electrons, around one of their axes, simply first it is enough taking into account *the fact that they own magnetic fields*. So then, the alternative electric vector ***E*** of EMW may act accordingly in the implementation of rotation around a suitable axis. But this specific and permanent rotation must occur at the same time that the linear movement (say orbital): however this is possible only if the shape of the object is well suited to the development and continuity of initial rotation during the linear transfer.

2. STUDY OF A SPIN-UP OF A BODY, HAVING AN IDEAL FORM, IN ITS LINEAR PATH SHAPE

The basic physical possibility for imagining such rotation around an axis of a magnetic object refers somehow to what occurs for the Earth when solar winds (which are electrical vectors) arrive to the Earth and its environment.

The terrestrial magnetic field (or geomagnetic) is mainly internal in origin, created by its core. As there's no direct access into the Earth, there are simple numerical models to try understanding these phenomena whose all variables, or almost, are hidden. From the theoretical point of view, the geomagnetic field is oriented in space and presents two vector components in a point on the Earth's surface (no doubt also inside the Earth). There is a magnetic induction component B_z directed towards the center of the Earth (vertical) and a horizontal component B_h, the resultant representing the intensity of the magnetic field. If this decomposition of the field is always true inside the Earth, it results that here B_z is the interesting component. Indeed, it is directed towards the center of the object: it will be in the same plane as the direction of the linear displacement and of longitudinal propagation component of EMW that causes this specific linear movement [2].

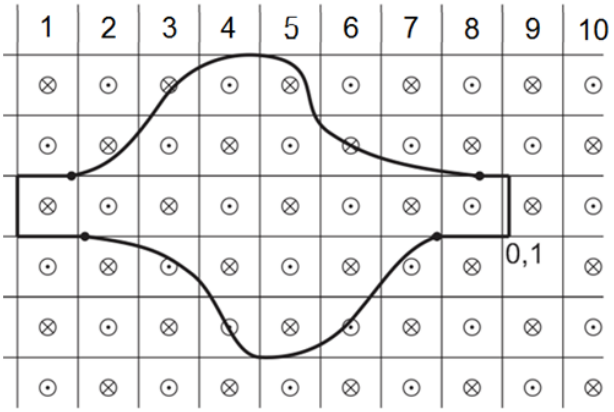
So, in an EVTD^{2}space-time, the vector *E* of EMW will be perpendicular to B_z and its action may initiate a rotation of the object to itself around a vertical axis relatively median. This is what it should be specified.

In summary, the EMW's ***E*** vectors, perpendicular to plans in figures 2 to 11, will establish simultaneous and normal actions on linear displacement itself, being able to induce a certain rotation of the object.

By convention, here the pushed vectors ***E*** (⊗) will be directed to the background of the figures while the pulled ***E*** vector (⊙) will be towards the front of the figures (2-11).

So there will be the following possibilities for resulting actions from each of both right and

left hand side of a vertical centerline: either pushed P, either pulled T, but also zero action N.

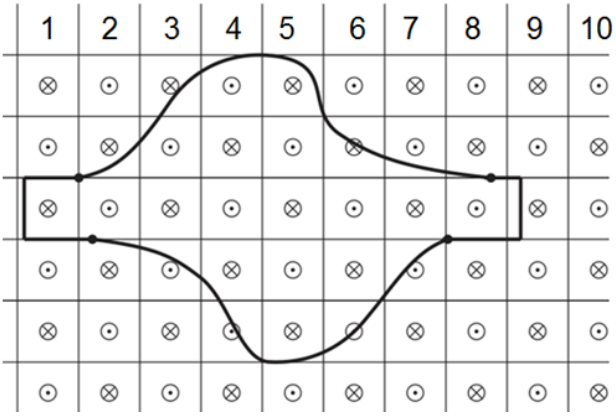


Left side columns				Right side columns				
1	2	3	4	5	6	7	8	9
N	P	N	T	P	N	T	N	P
Left resultant: N				Right resultant: P				

Fig. 2. Counterclockwise rotation movement around a vertical axis, caused by the action of the electric alternative field *E* of EMW on a body of ideal form with, which has its own internal magnetic field. The general resultant is *one push through the right of the body*, which initiates this counterclockwise rotation.

Elsewhere, the recognized effect of a solar wind (a stream or electric vector) on the terrestrial extern geomagnetic field is to compact lines of the Earth field that faces the Sun.

On the other hand, in the environment located behind the Earth to the Sun, this field lines are stretched as if in both cases, there is a pressure of the solar wind electric on them. It follows that an alternative ***E*** vector of EMW, also present in the interior of the Earth, will have an effect on the lines of the internal magnetic field, in the direction of the electric vector.



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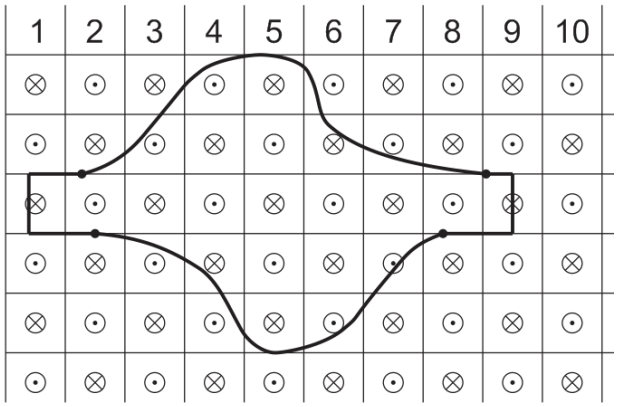
1	2	3	4	5	6	7	8	9
P	P	N	T	P	N	T	N	P
Left resultant: P				Right resultant: P				

Fig. 3. Second position on the linear displacement trajectory with *a push on each side*: the rotation is blocked (antagonist actions) and occurs an instant stop of body's initial rotation on itself action.

More, if the B_z lines are, somehow, supportive of the permanent magnet in the center of the object, it will follow that the magnet and thus the object itself, closely linked to it, may be subjected to a displacement pressure (force normal to internal lines of the B_z components.

Special attention will be required in the case of P and T to infer the direction of body rotation. Indeed, for the case of a global resultant of both sides with a P on the right, for example, there will be a counterclockwise rotating action. While if it is left P that predominates, the induced rotation will be reverse counterclockwise. In the similar case of T, the results will be reverse of the previous cases.

In cases where the two resulting forces, left and right, acting identically and simultaneously, for example each P or each T, this will result in both cases by blocking the rotation action.



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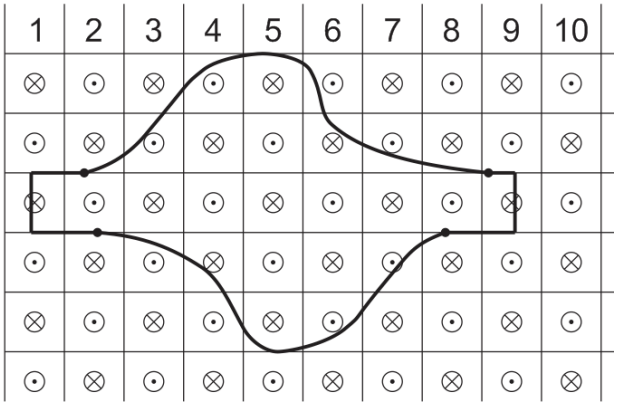
1	2	3	4	5	6	7	8	9
P	P	N	T	P	T	T	P	P
Left resultant: P				Right resultant: P				

Fig. 4. Third position on the linear displacement trajectory with *a push on each side, wherefrom a zero global resultant force*: so, a new you temporarily stop of the object rotation action.

The Earth is a planet having a slightly oblong form at the equator and, in addition it has profiles, mountains and at the rigid bottom of oceans, which are the inverse of the fluid: sea water. The EMW actions of on the rigid crust (both, in air and at the oceans bottom) will have only mechanical effects on initiating Earth movements.



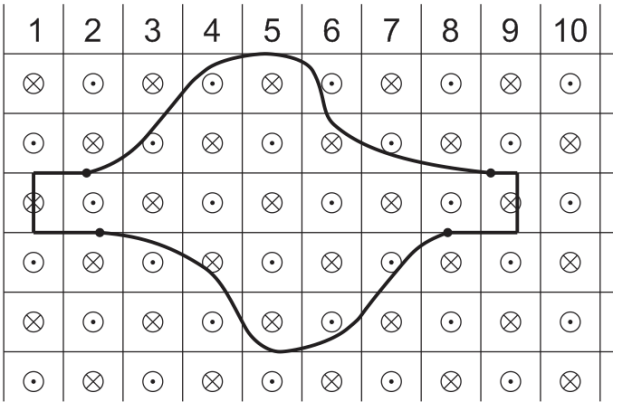
Left side columns				Right side columns				
1	2	3	4	5	6	7	8	9
P	P	N	T	P	T	N	P	N
Left resultant: P				Right resultant: P				

Fig. 5. Fourth position on the linear displacement trajectory, presenting the same conjunctures as for fig. 3 and 4, and thus, driving to the same conclusions.

Mountain massive such as the Himalayas and the Andes cordillera, which are the highest on Earth, are arranged quite symmetrically in relation to the center of the Earth (something about diametrically opposed).Nevertheless, many massive mountains, relatively less prominent, can play the roles of the landform bulges which would be well located.

If we just consider the two massifs, Himalayas and Andes cordillera, it must be noted that Everest is at around 28 ° North latitude; while the Aconcagua, highest peak in the Andes, is located at 32 ° south latitude.

This specify a little more, the almost diameter symmetry of the two highest mountains of the Earth's surface. These profiles of Earth's surface would be in correlation with the profile determined for the most adapted body's form, presented in [2] and which is also used here in figures 2-11 since it is this object form that will be studied.



Left side columns				Right side columns				
1	2	3	4	5	6	7	8	9
P	P	N	T	P	T	N	P	N
Left resultant: P				Right resultant: P				

Fig. 6. Fifth position, represented by the same results as the three previous cases: thus the rotation will be also instantly stopped.

This again demonstrates the positions of some studied ideal form bulges [2], but less efficiently for Earth, because its speed in orbit around the Sun is only *30* Km/s. The median length of this elongated shape, always contains identically the fractional number of 8.1 entities $EVTD^2$ (figures 2 to 11). In addition, its height is similarly equal to 5 entities $EVTD^2$.

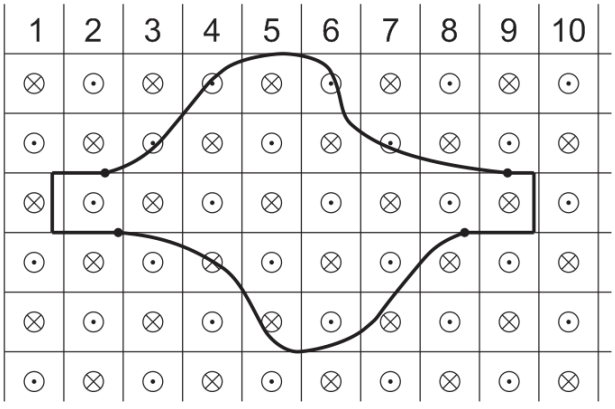
Let, for example, this object in an initial position relative to the topology of EVTD[2] entities meshing as shown in figure 2, which is at the start of the linear trajectory [2].

The same study approach will be pursued for rotation initiation opportunities by taking into account the resultant of the piecemeal actions of the alternate vector ***E*** of EMW in both sections right - left of this studied object.

Then, it could result, for a lap of time Δt (i.e. during one EMW alternating), that a counterclockwise rotation can be generated, for example. Intermediate positions, characteristic of the linear object [2] displacement compared to the EVTD[2] entities meshing, are summarized successively on figures 2 to 11.

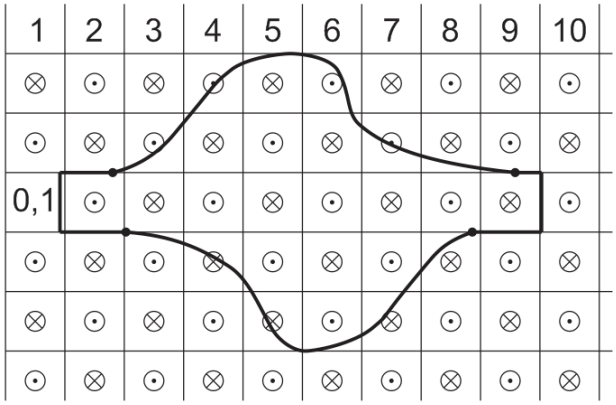
To check this, it is enough to count the push/pull alternating in the two sides of the studied object section, which are specific to vector ***E*** of EMW. This must be considered during the various spatial circumstances, related to the different positions of the linear transfer in the resulting sense of study [2].

More even the number of points in an entity (in the simplified diagram) is low the current action in *it is somehow quantified* and it will be equivalent to the same action, as in other EVTD[2] which is completely filled with condensed matter.



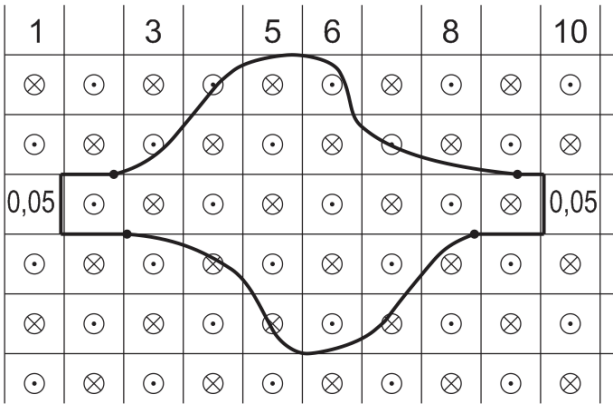
Left side columns				Right side columns				
1	2	3	4	5	6	7	8	9
P	N	T	N	P	T	N	P	N
Left resultant: N				Right resultant: P				

Fig. 7. Sixth linear position presenting *a push on the right side* as the global rotation resultant: this allows the resumption of rotation in a counterclockwise.



Left side columns				Right side columns				
1	2	3	4	5	6	7	8	9
P	N	T	N	P	T	N	P	N
Left resultant: N				Right resultant: P				

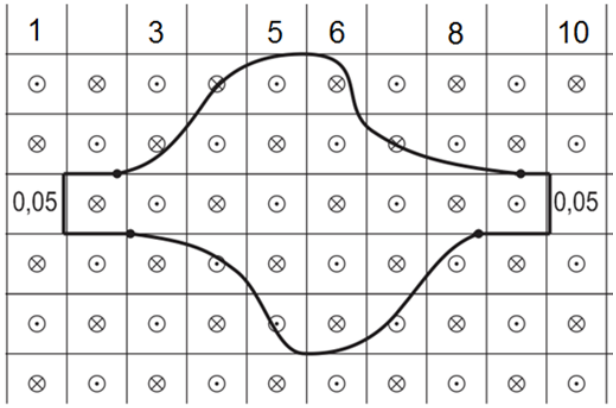
Fig. 8. Seventh linear position, presenting the same conjunctures as for the previous figure 7 and thus, continuation of the rotation.



Left side columns					Right side columns				
1	2	3	4	5	6	7	8	9	10
P	N	T	N	P	T	N	P	N	T
Left resultant: P					Right resultant: T				

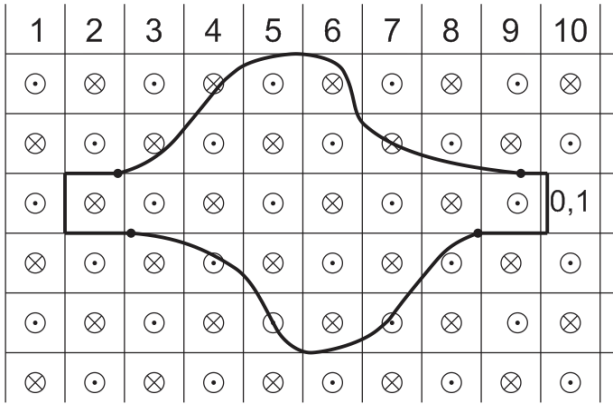
Fig. 9. Eighth position of the linear displacement that presents a particular case because there is a rotation direction momentary inversion: the object performs a fraction of clockwise rotation.

From the different actions (right - left) that are presented in each summary tables of figures, it is clear from this study, that there are various possibilities of body's counterclockwise rotation *during one EMW alternating*. I.e. positive cases, among the various positions of the linear displacement, are in figures 2 to 10.



Left side columns					Right side columns				
1	2	3	4	5	6	7	8	9	10
T	N	P	N	T	P	N	N	N	P
Left resultant: 2 T					Right resultant: 2 P				

Fig. 10. Ninth conjuncture on the linear displacement that shows the complete inversion of the EMW vibrations alternating (see [2]). Here, contrary to the previous case (Fig. 9), counterclockwise rotation is doubly reactivated.



Left side columns				Right side columns				
2	3	4	5	6	7	8	9	10
N	P	N	T	P	N	T	N	P
Left resultant: N				Right resultant: P				

Fig. 11. Tenth position representing a situation identical to that at the beginning, but a linear transfer of an $EVTD^2$ entity occurred during one EMW alternating: trigonometric rotation is continued.

Finally, there are four actions of rotation in this sense. But there is also (Fig. 9) a reverse counterclockwise rotation action. Therefore the global count of these actions during one alternating amounted to: 4 – 1 =3 body's trigonometric rotations. Further, for the next alternation of EMW and beginning with figure 11, the rotation actions will take place following the same scenario. Ultimately, this animated object in a linear movement, almost at the speed of light [2], will be more put into a simultaneous rotation (here following a counterclockwise) around a median internal axis at speeds much less than the linear displacement.

This is by analogy, but with lower performances on the respective speeds, the similarity with the two motions of the Earth: on itself and in orbit around the Sun.

In addition, as the shape of the here studied body presents a central pseudo-symmetry, but nevertheless with some disparities as to promote some movements, being placed in rotation should not interfere with the continuity of the same movements.

In fact one can estimate that the induced rotation will successively pass object domes top and bottom relative to the horizontal median part in circumstances of profile form which will be compensatory one to the other.

Thus the upper dome profile, in "trough" of the right side will be replaced after a rotation of 180 ° by the "mountain" profile of the left part of this dome.

But, in the same, time for the lower dome permutations will be reversed which will present in certain profile symmetry almost equivalent with regard to the right and left sides to respectively generate simultaneous linear movements and rotation.

The major reason for this: the shape profile of this object has diameter symmetry with respect to upper and lower domes. So, rotating around a vertical relatively median axis, additional upper and lower profiles will compensate simultaneously and, thus, the body's rotation on itself could be maintained in time.

3. CONCLUSION

Once again the vacuum or of $EVTD^2$ entities energy, as energy, presents well the ability to provide work. In this case here and in the study [2], this focused work by the adapted form of the object would materialize by the simultaneous generation of two well known

movements, particularly as those of planet Earth and, maybe those of the electron too. EVTD^2 entities theory therefore brings his light of understanding on these types of scientific puzzles.

Thus, the various modes of EVTD^2 entities energy (summaries by the energy of the vacuum) would be somehow fuels the "engine" that generates the natural movements of the bodies as those of the Cosmos than those of atomic and subatomic dimensions.

Among the three possible action modes of EMW on the body – wave longitudinal propagation, the electric and magnetic vector components, specific body's movement can occur and these in agreement with its intrinsic characteristics.

Here it is obvious that the rotation around the magnetic dipole axis is favored by its own internal magnetic field. Finally, it is the resulting of multiple EMW electric vectors actions that shows if the body is or is not rotating on itself.

We must emphasize that, for this body shape, the rotational performance is much less than for the linear movement. [2]

The shape and the profile of natural objects must be adapted to the uptake of these forms of energy and more their modeled forms are close to the ideal shape, more their natural animation speeds are high as to be able to approach the speed of light.

Once again, the form of an object proportional to the Golden ratio turns out to be very effective for the ideal uptake of the vacuum energy. This more reinforces *the importance of taking into account the form of natural objects* which should be integrated in the physics of tomorrow.

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Rotaţia naturală în jurul unei axe interne pentru un corp magnetic de formă oblongă adaptată, în timpul deplasării sale liniare, într-un spaţiu-timp electromagnetic vectorial alternativ EVTD^2

Rezumat: Această lucrare, în teoria entităţilor EVTD^2, este o continuare a lucrărilor [1-2] şi care tratează iniţierea în spaţiu a mişcărilor de rotaţie, în timpul unui parcurs liniar (ca, de exemplu, rotaţia Pământului în jurul unei axe interne de-a lungul orbitei), pentru obiecte magnetice ale căror forme, uşor asimetrice, sunt adaptate în mod ideal. Cedle două tipuri de rotaţie sunt abordate simultan, ţinând cont de modificările conjuncturale de-a lungul traseului, reprezentând atât mişcările Pământului cât şi ale electronului. Raportul de proporţionalitate de formă lăţime/înălţime este foarte apropiat de Numărul de aur, ceea ce adaugă acestuai din urmă reputaţia de foarte bun captor de energie, mai ales în cadrul ipotezei existenţei entităţilor energetice EVTD^2 ca şi constituenţi ai spaţiului – timp.

Rotation naturelle autour d'un axe interne, pour un corps magnétique de forme oblongue adaptée, pendant son déplacement linéaire, dans un espace-temps à vecteurs alternatifs électromagnétiques EVTD^2

Ce travail, en théorie des entités EVTD^2, est un prolongement aux publications [1-2] qui initient dans l'espace le mouvement rotatif, pendant un trajet naturel linéaire tel par exemple ceux de la Terre, autour d'un axe interne et en orbite, pour des objets magnétiques dont les formes légèrement dissymétriques sont idéalement adaptées. Les deux types de rotation sont étudiés simultanément en tenant compte des changements de conjoncture au cours du trajet : ce qui représente conformément les deux mouvements de la Terre et de l'électron. Le rapport de proportionnalité de forme, largeur / hauteur, est très voisin du nombre d'Or ce qui rajoute, à ce dernier, sa réputation d'excellent capteur d'énergie notamment dans les hypothèses des entités énergétiques EVTD^2 comme constituant de l'espace-temps.

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